It must always be remembered that the forecasts are drawn for districts, not for individual stations; and disregarding the amount of correctness claimed by the Office by its own checking of its work, they attain a very creditable amount of success when tested by independent observers. This happens even in the summer-time, the very season at which a recent critic said that the forecasts for one month, if shuffled about, and drawn at random from a bag, would suit just as well for the next! This is proved by the results of the hay harvest forecasts, which are deduced from the reports of the recipients, practical agriculturists.

The following is the table for the season of 1888, the latest for which the figures are available:—

Districts.	Names of stations.	Percentages.			
		Complete success.	Partial success.	Partial failure.	Total failure.
Scotland, N.	Golspie and Munlochy	48	34	17	1
„ E.	North Berwick, Glamis, Aberfeldy, and Rothiemay	43	41	11	5
England, N.E. ...	Chatton and Ulceby	50	27	17	6
„ E.	Thorpe and Rothamsted	48	39	10	3
Midland Counties..	Cirencester and East Retford ...	53	32	9	6
England, S.	Horsham, Maidstone, and Downton	52	40	6	2
Scotland, W.	Dumbarton, Islay, and Stranraer	45	41	8	6
England, N.W. ...	Leyburn and Prescot	57	24	11	8
„ S.W. ...	Bridgend (Glamorgan), Clifton, Glastonbury and Spring Park (Gloucestershire)	46	36	13	5
Ireland, N.	Moynalty and Hollymount	43	38	14	5
„ S.	Moneygall, Kilkenny, Ardfert Abbey	53	31	10	6

Every year the Office hears of farmers expressing their interest in these announcements, and sending daily to the places where they are exhibited, to learn what they contain.

To give an idea of the difficulty of obtaining accurate opinions from outsiders as to the value of storm-warnings, which are a class of forecasts, it may be interesting to give some specimens of reports.

Inquiries were made in 1882, from all the stations where signals are hoisted, as to their correctness and general utility. From Tynemouth the answer was that "these signals have been, and will be, an inestimable boon to our seafaring population." From South Shields, just opposite Tynemouth, the reply to a recent official inquiry was that "the warnings were not a ha'porth of use, and that no one minded them." Each answer merely represented the private opinion of the person who uttered it.

The reader can see that there is some difficulty in picking out the actual truth from such a heap of incongruous statements as the foregoing are certain to furnish.

R. H. S.

THE LABORATORIES OF BEDFORD COLLEGE.

BEDFORD COLLEGE, in York Place, Baker Street, which was one of the earliest institutions devoted to the higher education of women, is taking a leading part in providing facilities for their instruction in science. Founded long before Oxford and Cambridge condescended to the "weaker sex" (which has since proved strong enough to attain to the highest place in the Classical Tripos), it is the result of the work of enthusiasts who would not admit the possibility of defeat. It has had to struggle not only against the inevitable difficulties due to its early foundation, but against the apathy of London. Provincial towns feel that their honour is involved in the success of their institutions. The Colleges for women at Oxford and Cambridge share in the picturesque surroundings of those old homes of learning. They attract attention and interest by their situation amid scenes and traditions of which the whole English-speaking race is proud. Bedford College has had no such advantages. London institutions are regarded as either Imperial or parochial—as too large or too small to interest its citizens as such. Bedford Square compares unfavourably with the "backs," and it is impossible to regard York Place with that gush of emotion which "the High" sets free. Thus it is that, although Bedford College has been at work since 1849, and though one in every four of the whole number of women who have gained degrees of the University of London has been a student in its classes, the work of the College does not yet receive the meed of public appreciation which it has fairly earned. Bedford College is for women what University and King's Colleges are for men. It provides, within easy reach of all Londoners, an education which is tested by the severe standard of the University of London, and bears the hall-mark of success. One-third of its students are aiming at degrees, and their presence in the class-rooms, their work in the examination-hall, guarantees the quality of the teaching they receive to class-mates who do not intend to face the same ordeal. Science has for long been taught in Bedford College, but there has been a pressing need for better laboratories and class-rooms. These the Council has now provided. A new wing has been built, dedicated to the memory of the late Mr. William Shaen, who worked long and devotedly for the College. About £2000 is required to complete and fit up this building free of all debt, and Mr. Henry Tate, who had already given £1000 to the fund, has promised to supplement it by a like amount if the Council on its part can raise the other moiety of the deficit. It is too probable that this sum will only be obtained by an exhausting effort, but surely it is not too much to hope that the public may at last appreciate the importance of promoting the higher education of women in London. In a northern manufacturing town the money would be forthcoming in a week.

As regards the laboratories, it may be sufficient to say that Dr. W. Russell, F.R.S., is the Chairman of the Council, and that they have been built under his general supervision. They appear to be in all respects suited to the purposes for which they are intended. The physical laboratory and lecture-room are on the ground floor. The former has a concrete floor, and is well lighted, partly by windows, partly by a skylight. It looks out upon East Street, and is therefore removed as far as possible from the effects of the heavy traffic in Baker Street. The chemical laboratory is at the top of the house, and opens into a class-room which is fitted with all the usual conveniences for experimental illustration.

It is surely a hopeful sign that a College for the higher education of women should now be regarded as incomplete unless it controls physical and chemical laboratories specially designed and fitted for the delivery of lectures and the performance of experiments. These Bedford College now possesses. We can only hope that it may soon possess them free of debt. The Editor of NATURE will be happy to receive and forward to the College authorities any subscriptions which may be sent to him for that purpose.

STEPHEN JOSEPH PERRY, F.R.S.

ON the evening of January 4 a telegram from Demerara announced that there had been a successful observation of the eclipse of December 22, and that Father Perry had succumbed to dysentery.

Stephen Joseph Perry was born in London on August 26, 1833, and received his early education at Gifford Hall School. Having decided to enter the priesthood, he went

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to the Catholic Colleges at Douai and Rome. While at Rome, he resolved to enter the Order of Jesuits; and, returning to England, he joined the English province of the Order on November 12, 1853. After two years' noviciate, he went to France for one year. He then returned to Stonyhurst for a course in philosophy. His inclination to mathematics was soon apparent, and his superiors in the Order decided to train him specially for this line of work. In 1858 he occupied the 6th place on the Mathematical Honours list of the London University. After attending lectures by De Morgan, he went to Paris for a year to finish his mathematical studies. On returning to Stonyhurst, he was appointed Professor of Mathematics and Director of the Observatory, succeeding Father Weld, who had for many years occupied the position. During the College year 1862-63, Father Perry taught one of the classes at Stonyhurst. In September 1863 he went to study divinity at St. Bueno's College, North Wales, and in 1866 he was ordained priest. Two years later he returned to Stonyhurst to resume his professorship and the charge of the Observatory. From this time he never left the College save to take part in some scientific expedition.

The work at Stonyhurst Observatory had been chiefly meteorological and magnetic before Father Perry's assumption of the directorship. In 1866 it was selected as one of the first-class meteorological stations. In 1867 the astronomical department of the Observatory was placed in a much more satisfactory position by the acquisition of an equatorial which originally belonged to Mr. Peters, and a small instrument destined for spectroscopic work. The first of these instruments was an 8-inch by Troughton and Simms, the second a 2¾-inch. The first spectroscope was procured in 1870 from Mr. Browning, and was used for preliminary work on star spectra, pending the construction of a larger instrument ordered from Troughton and Simms. In 1874 a large direct-vision spectroscope was ordered from Browning for use in observing the transit of Venus. Two years later a Maclean spectroscope was added, and in 1879 another by Browning containing 6 prisms of 60°; and more recently a Christie half-prism by Hilger.

With these instruments Father Perry has carried out systematic work of the highest class, his aim being to make Stonyhurst as efficient an observatory for solar physics as the means at his disposal would admit. His first communication to the Royal Astronomical Society indicates the policy he pursued—to undertake no work which was a mere duplication of that done at other places. His solar work during the last ten years formed the subject of a lecture at the Royal Institution on May 24. It may be divided into two classes—drawings and spectroscopic observations. For the drawings an image of the sun 10½ inches in diameter was projected on a sheet of drawing-paper affixed to a sketch-board carried by the telescope, and all markings on the sun traced. The drawing finished, the chromosphere and prominences were examined with the spectroscope. About 250 drawings were made every year from 1880. The results of the observations were published annually in a neat little volume, and also in various publications.

In addition to this work, regular observations of Jupiter's satellites, comets, &c., were made, as also spectroscopic observations of comets, stars, &c.

Father Perry's labours were not confined to the Observatory alone, and in fact the extraneous work which he undertook gave the world the best opportunities for studying his high character, and impressed astronomers with a sense of his great devotion to their science. The first occasion on which he left the Observatory for scientific work was in the autumn of 1868, when, accompanied by Father Sidgreaves, he made a magnetic survey of the west of France. In the following year the vacation was spent in a like work for the east of that country. In 1871, assisted by Mr. Carlisle, he made a similar survey of Belgium.

In 1870, Father Perry took part, for the first time, in an eclipse expedition, being stationed near Cadiz, whither he had taken the two spectroscopes acquired by the Observatory in 1870, and two telescopes—a Cassegrain of 9½ inches and a 4-inch achromatic. In 1874 he volunteered for the Transit of Venus expeditions, and was selected by Sir George Airy as chief of the Kerguelen party. Much tact and energy were required for the success of his party, who encountered several obstacles before arriving at the "Island of Desolation," as he termed Kerguelen. The spirit in which these obstacles were met is shown by his words—"We were determined that no consideration should make us flinch where the astronomical interests of the expedition were at stake." That this was no vain boast is proved by the evidence of those who were his colleagues in any excursions by water. His sufferings from sea-sickness were so fearful that everyone wondered that he cared to venture on even the most promising trip; aad that he should have undertaken the terrible voyage to Kerguelen speaks volumes for his enthusiasm for science. "Four days and nights the mighty waves had been washing over the *Volage*." His patience in suffering on this and other occasions helped to win for him the esteem of the officers with whom he came in contact. Not one word of his discomfort is to be found in any of the journals kept by him. In addition to the work of the expedition, he took magnetic observations at the Cape, Kerguelen, Bombay, Aden, Port Said, Malta, Palermo, Rome, Naples, Florence, and Moncalieri, and lectured on the Transit of Venus at the Cape and Bombay, and, on his return, at the Royal Institution.

In 1882 he went to Madagascar for the Transit of Venus. For the eclipse of August 29, 1886, he went to Carriacou, for that of August 19, 1887, to Russia; and last November he sailed for Salut Isles on his final expedition. It is worthy of remark that the Archbishop of Demerara, who had been a pupil of his, went to Barbadoes in 1886 to see his old master; and on the present occasion the body of the master was taken to Demerara.

When at Stonyhurst, Father Perry, in addition to his Observatory work, carried out to the fullest extent his duties as a professor. He was very popular as a lecturer; and at Liverpool, Wigan, and neighbouring towns, he often delighted audiences, some of which numbered more than 3000 people. Father Perry but rarely occupied the pulpit of recent years, but he was much admired as a preacher. His sermons were marked by the earnestness which formed so distinguished a feature of his character.

To those who came in contact with him in connection with his scientific work, he endeared himself by his genial and retiring manner, retiring on all occasions save when some sacrifice was demanded for the science he loved so well, and for which he laid down his life on December 27.

In 1874, Father Perry was elected a Fellow of the Royal Society, and very shortly before his last voyage he was placed on its Council. He was a Fellow and Member of Council of the Royal Astronomical Society, and a Fellow of the Royal Meteorological Society, the Physical Society of London, and the Liverpool Astronomical Society. Of the last-named Society he was President at the time of his death. In 1886 he received the honorary degree of D.Sc. from the Royal University of Ireland, and at various dates he was elected by the Accademia dei Nuovo Lincei, the Société Scientifique de Bruxelles, and the Société Géographique d'Anvers. For several years preceding his death, he served on the Committee of Solar Physics, appointed by the Lords of the Committee of Council on Education, and also on the Committee for Comparing and Reducing Magnetic Observations, appointed by the British Association for the Advancement of Science. In April 1887 he took part in the International Astrophotography Congress held at Paris.

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